The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte VICKI A. BARBUR and ANDREW GREEN

Appeal No. 1998-3339
Application No. 08/614,459

ON BRIEF

Before THOMAS, HAIRSTON, and BARRY, Administrative Patent Judges.

BARRY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the rejection of claims 1-3. We reverse.

BACKGROUND

The invention at issue in this appeal relates to reject analysis. Reject analysis aims to ensure that a process is working within or better than the bounds of its historical capability. Constant monitoring of rejects from a process is

the first step to ensure that procedures, especially new ones, are not adversely affecting the overall output.

Previously known procedures for reject analysis were effectively based on univariate statistical process control (SPC) techniques. These techniques were not suitable for use with complex processes where, for each process, many variables are monitored to assess the status of the process. Some of the variables in such a process may not be independent, and the degree to which the variables are correlated is often unknown, making it difficult to assess the status of the process.

The appellants' method for reject analysis applies multivariate statistical process control techniques. The method allows rejects from a process to be controlled simply and effectively by deriving a Hotelling's T^2 statistic for a series of variables or classification categories that impact reject performance characteristics. The calculated T^2 value is compared with a standard value for the particular system. If the value exceeds the critical value, it suggests that

there has been a significant change in the typical reject rate compared with the expected situation. Accordingly, action can be taken to identify the cause of the change and procedures can be put in place to correct the problems, i.e., to return the reject rate to the expected position.

Claim 1, which is representative for our purposes, follows:

> 1. A method of carrying out reject analysis on a process, the method comprising the steps of:
>
> a) defining a set of reject classifications for products produced by the process;
>
> b) sampling data relating to rejected products obtained from the process for the defined set of reject classifications;
>
> c) defining a model of the process from the sampled data;
>
> d) applying limits to the model indicative of out-of-control conditions;
>
> e) monitoring the process for out-of-control situations; and
>
> f) taking corrective action to bring the process back into control when the applied limits have been exceeded;
>
> characterized in that the model is defined using principal component analysis in terms of the

> parameters T^2 and Q_{res}, where T^2 is derived from the sum of the squares of the scores of each of the principal components of the model and Q_{res} is derived from a weighted sum of the squares of the scores of the principal components not included in the model.

The prior art applied in rejecting the claims follows:

Hopkins et al. (Hopkins) 5,442,562 Aug. 15, 1995
(filed Dec. 10, 1993)

Miller et al. (Miller), Contribution Plots: The Missing Link in Multivariate Quality Control, 37th Annual Fall Conference, ASQC (1993).

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being obvious over Hopkins and under § 103(a) as being obvious over Miller. Rather than reiterate the arguments of the appellants or examiner in toto, we refer the reader to the brief and answer for the respective details thereof.

OPINION

In deciding this appeal, we considered the subject matter on appeal and the rejections of the examiner. Furthermore, we duly considered the arguments and evidence of the appellants and examiner. After considering the record, we are persuaded

that the examiner erred in rejecting claims 1-3. Accordingly, we reverse.

We begin by noting the following principles from In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

> In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).... "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

With these principles in mind, we consider the examiner's rejection and the appellants' arguments.

Admitting that Hopkins and Miller “do[] not specifically teach only ‘sampling data relating to rejected products’, instead gathering data from various batches which, seemingly, are composed of both accepted and rejected products[,]” (Examiner’s Answer at 4, 6), the examiner asserts, "it would

have been obvious to one of ordinary skill in the art at the time of the invention to only sample rejected products for the multivariate principal component analysis (PCA) because this would allow one to use PCA to determine the leading causes of the various defects encountered in whatever system the invention was being applied." (Id. at 4-6.) The appellants argue, "[t]his argument assumes that there is some motivation in the prior art for sampling only rejected products to achieve an understanding of the cause of the reject. The Examiner has shown no such motivation, other than that provided by Applicants' disclosure." (Appeal Br. at 3.) They add, "[a]pplicants do not claim that the multivariate statistical method employed in the process is novel, only that the application of the statistical method to analyze rejected products resulting from a process using a set of reject classifications is new." Id. at 2.

"'[T]he main purpose of the examination, to which every application is subjected, is to try to make sure that what each claim defines is patentable. [T]he name of the game is the claim ....'" In re Hiniker Co., 150 F.3d 1362, 1369,

47 USPQ2d 1523, 1529 (Fed. Cir. 1998)(quoting Giles S. Rich, The Extent of the Protection and Interpretation of Claims--American Perspectives, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499, 501 (1990)). Here, claims 1-3 specify in pertinent part the following limitations: "a) defining a set of reject classifications for products produced by the process; b) sampling data relating to rejected products obtained from the process for the defined set of reject classifications ...." Accordingly, the claims require sampling data relating to rejected products, wherein the data are obtained from a defined set of reject classifications for products produced by a process.

The examiner fails to show a teaching or suggestion of the limitations in the prior art of record. "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordnance Mfg. v. SGS Importers Int'l, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995)(citing W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1551, 1553, 220 USPQ 303, 311, 312-13 (Fed. Cir. 1983)). "It is impermissible to use the claimed

invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992) (citing In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991)). "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." Id. at 1266, 23 USPQ2d at 1784 (citing In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)).

"The range of sources available ... does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. See, e.g., C.R. Bard, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'" In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (citing McElmurry v. Arkansas Power & Light Co., 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) and In re Sichert, 566 F.2d 1154,

1164, 196 USPQ 209, 217 (CCPA 1977). Although couched in terms of combining prior art references, the same requirement applies in the context of modifying such a reference.

Here, the examiner's rejection admits that neither Hopkins nor Miller teaches sampling data relating to rejected products instead of data relating to both accepted and rejected products. In addition, his broad, conclusory opinion of obviousness does not meet the requirement for actual evidence.

Because Hopkins and Miller merely sample data for both accepted and rejected products, we are not persuaded that the teachings from the prior art would appear to have suggested the limitations of "a) defining a set of reject classifications for products produced by the process; b) sampling data relating to rejected products obtained from the process for the defined set of reject classifications ...." Therefore, we reverse the rejection of claims 1-3 as being obvious over Hopkins and as being obvious over Miller.

CONCLUSION

In summary, the rejection of claims 1-3 under § 103(a) is

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)
KENNETH W. HAIRSTON Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
LANCE LEONARD BARRY Administrative Patent Judge	)

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Once signed, forward to Team 3 for mailing.

APPEAL NO. 1998-3339 - JUDGE BARRY
APPLICATION NO. 08/614,459

APJ BARRY - **2 copies**

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APJ THOMAS

Prepared By: APJ BARRY

DRAFT SUBMITTED: 02 May 02

FINAL TYPED:

Team 3:

I typed all or almost all of this opinion.

Please check spelling, cites, and quotes.

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For any additional reference provided, please prepare PTO 892 and include copy of references